



PowerEdge R740xd2 for Video Surveillance

Tech Note by:

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SUMMARY

The new PowerEdge R740xd2 is an enterprise content server optimized for data intensive workloads including video surveillance.

The number of video cameras installed and the video resolution (number of megapixels) are both increasing exponentially, driving requirements for a server with very large internal storage, like the R740xd.

Dell EMC Surveillance Validation Lab, together with its partner ecosystem, helps users to choose a sized, tested and validated solution that meets user requirements, taking the guesswork out of acquiring, implementing and using the solution

Video surveillance continues to prove its key role in protecting people and assets. It has been estimated that in 2017 alone, 127 million network and CCTV surveillance cameras shipped worldwide.¹ Organizations are increasingly turning to digital Internet of Things (IoT) surveillance infrastructure to improve reliability, responsiveness, and manageability. Along with this trend of rapidly growing use of video surveillance comes the question of how to store the huge influx of video. Compounding the issue even further, the quality (resolution) of camera technology is advancing, with an estimated 70% of cameras now capturing images at moderate to high resolution, requiring more infrastructure to store video.² As a result, storage needs for enterprise surveillance storage are forecast to grow at a 42% compounded average growth rate (CAGR) from 2016 to 2021.³

This exponential growth of required capacity is being driven by applications including Safety and Security; Counterterrorism; Compliance; Digital evidence; Facial recognition; Anomaly detection; Anti-litigation; and Fraud/Loss prevention. Moreover, these applications have been and are being further implemented across many sectors, including city surveillance, government sites, bank branches, retail shops and outlets, manufacturing facilities, hospitals and schools as well as business buildings and campuses.

PowerEdge R740xd2

Assisting in solving the need for a right-sized platform for storing and processing video, the new PowerEdge R740xd2 is an enterprise content server optimized for data intensive workloads. Bringing storage closer to compute, the R740xd2 is a 2-socket, 2u platform with up to 26 drives for high-capacity internal storage. A single R740xd2 can store up to 364TB of data in 2u, or up to 500,000 hours of HD video content. By extension, a standard 42u rack in a data center, full of R740xd2 servers, can to store up to 7.2PB in that single rack.



Image 1: PowerEdge R740xd2, with lockable front bezel

Beyond its huge storage capacity, a key feature of the R740xd2 is its expandable chassis, which permits easy access to two drive carriers, each with 12 drive bays, as shown in Image 2 on the next page. This ease-of-access serviceability helps to ensure uptime, making the R740xd2 an excellent fit for data-heavy workloads including media streaming, software defined storage, messaging, cost-effective Hadoop, and the afore-mentioned video surveillance.



Image 2: PowerEdge R740xd2 with chassis expanded, permitting easy access to all drive bays.

Dell EMC Surveillance Validation Lab

Of course, just offering a good platform for a solution doesn't deliver a fully-successful outcome to users. Instead, appropriately-sized, tested and validated solutions are needed in order to provide full benefit. This is where the Dell EMC Surveillance Validation Lab comes in. The Surveillance Validation Lab works with leading surveillance providers in the Dell EMC partner ecosystem to test their video management solutions. Dell EMC then uses those findings to help organizations choose a sized, tested and validated solution that meets the organizations' requirements.

In the Surveillance Validation Lab, dedicated engineers test surveillance infrastructure solutions in extreme, real-world scenarios. Their validations include:

• Virtual / Non-Virtual • Best Practices • ISV application	• Compute • Storage • Networking
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As part of validation support, the Dell EMC engineering team provides solution documentation including reference architectures, white papers, technical notes, sizing guidelines and technical presentations.

User benefits of validated solutions

When a customer buys a solution that is too big or too small, it oftentimes results in additional time and effort on the part their IT staff to "get it right", such that the solution meets requirements. A validated Dell EMC platform/solution infrastructure can simplify and streamline the process the IT staff would have to undertake to acquire, implement and use the solution. Not only does this mean that IT staff can focus on their daily or strategic tasks, it can also mean that they can have a surveillance solution in place sooner.

Conclusion

The new PowerEdge R740xd2 is an excellent platform for data-intensive workloads such as video surveillance. Its powerful 2-socket performance, huge internal storage capacity, and easy-access serviceability features allow it to smoothly accommodate the exponential growth of video storage. Using the R740xd2 as the infrastructure platform, the Dell EMC Surveillance Validation Lab can size, test and validate partner solutions to provide optimized and reliable video surveillance solutions tailored to user requirements. This takes the guesswork out of acquiring, implementing and using the solution and may even allow the user to have a surveillance infrastructure in place sooner.

Notes:

1. IHS Markit, "Top video Surveillance Trends for 2017".
2. IHS Markit, "Enterprise IT Storage Used in Video Surveillance", October 2017.
3. IHS Markit, Market Report, October 2017.